



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,940	10/04/2005	Jacob Osterling	P18256-US1	3605
27045	7590	01/05/2009	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			HU, RUI MENG	
			ART UNIT	PAPER NUMBER
			2618	
			MAIL DATE	DELIVERY MODE
			01/05/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,940	<b>Applicant(s)</b> OSTERLING ET AL.	
	<b>Examiner</b> RuiMeng Hu	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 and 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e) and a submission, filed on 10/24/2008.

### ***Response to Arguments***

2. Applicant's arguments filed on 08/25/2008 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant argues that Stratford et al. fail to disclose wherein the synchronization link includes a frequency distribution, a time distribution and an interface delay calibration.

The examiner respectfully submits that Stratford et al. disclose a synchronization link (column 12 lines 17-50), wherein the synchronization link includes a frequency distribution (column 12 lines 46-49, frequency information is sent between the base station hotel and the remote sites in order to synchronize oscillators between the two sites), a time distribution (column 12 line 50-column 13 line 7, timing information is recorded at the remote site and transmitted back to the corresponding base station as an auxiliary channel. The digital hub extracts the timing information from the auxiliary channel and compares it to its own time reference obtained from its local clock) and an interface delay calibration (column 18 line 43-column 19 line 40, Transmit and Receive Diversity using Time-Delay, figures 17 and 18, synchronization links 1730 and 1700).

***Response to Amendment***

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 3-13 and 16-19** are rejected under 35 U.S.C. 102(e) as being anticipated by **Stratford et al. (US Patent 6785558)**.

Consider **claim 1**, Stratford et al. disclose an interface (Abstract, figure 3, network interface 310, network access node 340) in a Radio Base Station (figure 3) for transmission and reception of user data to and from one or more user equipments in a radio communication network (Abstract), comprising: a plurality of links (column 7 lines 39-45) having a minimized bandwidth (column 7 lines 11-15) for carrying data independent of the functionality of the radio access network (figure 3, Network and a BTS) and the airborne radio transmission (figure 3, Remote Site 330) (column 4 line 64-column 5 line 6, column 6 lines 38-51); and, one or more user data links for uplink and downlink (column 4 lines 45-63), a control and supervision link (column 8 lines 37-44), and a synchronization link (column 12 lines 17-50); wherein the synchronization link includes a frequency distribution (column 12 lines 46-49, frequency information is sent between the base station hotel and the remote sites in order to synchronize oscillators

Art Unit: 2618

between the two sites), a time distribution (column 12 line 50-column 13 line 7, timing information is recorded at the remote site and transmitted back to the corresponding base station as an auxiliary channel. The digital hub extracts the timing information from the auxiliary channel and compares it to its own time reference obtained from its local clock) and an interface delay calibration (column 18 line 43-column 19 line 40, Transmit and Receive Diversity using Time-Delay, figures 17 and 18, synchronization links 1730 and 1700).

**Claim 2. (canceled)**

Consider **claim 3 as applied to claim 1**, Stratford et al. disclose intended for carrying baseband signals comprising digital signal components that describe the airborne signal (column 15 lines 36-41).

Consider **claim 4 as applied to claim 3**, Stratford et al. disclose wherein the user data link transfers the downlink user data as symbols and the uplink user data as sampled symbols (column 15 lines 36-55, digital samples).

Consider **claim 5 as applied to claim 1**, Stratford et al. disclose wherein the user data link carries information about stream identity for routing and/or supervision (column 11 lines 1-11, header).

Consider **claim 6 as applied to claim 1**, Stratford et al. disclose wherein the control and supervision link is split between a processor based link and fast indications (column 8 lines 37-44, OA&M sub-channel, Operation, Maintenance and Administration link supports the monitoring and controlling of remote site equipment).

Consider **claim 7 as applied to claim 6**, Stratford et al. disclose wherein the fast indications are used to determine the status of the radio transmission part when the processor based link has failed (column 17 lines 32-36, column 11 line 54-column 12 line 15, increasing of bit errors due to the status of the radio transmission part e.g. power control failure (column 7 lines 52-67) or synchronization failure (column 12 lines 17-39)).

Consider **claim 8 as applied to claim 6**, Stratford et al. disclose wherein an indication is used to reset the radio transmission part (column 11 line 54-column 12 line 15, the system could switch to three carriers using a rate  $\frac{1}{2}$  convolutional code).

Consider **claim 9 as applied to claim 1**, Stratford et al. disclose wherein the synchronization link is used to control the transmission time of the user data link (column 12 line 17-column 13 line 7).

Consider **claim 10 as applied to claim 1**, Stratford et al. disclose wherein the synchronization link is used to time stamp the reception time of the user data link (column 12 line 17-column 13 line 7).

Consider **claim 11 as applied to claim 6**, Stratford et al. disclose wherein a hardware reset is encoded in the processor based link layer 1 protocol as a code violation (column 17 lines 32-36, a hardware reset/control (e.g. reset to three carriers using a rate  $\frac{1}{2}$  convolutional code) can be encoded in OA&M sub-channel layer 1 protocol as a code violation).

Consider **claim 12 as applied to claim 5**, Stratford et al. disclose wherein transmission of parity bits is suspended during stream identity transmission (column 10 line 25-column 11 line 11).

Consider **claim 13 as applied to claim 4**, Stratford et al. disclose wherein the uplink data format consists of a fast changing mantissa and a slow changing exponent (Table 2, different coding rates).

**Claims 14-15. (canceled)**

Consider **claim 16 as applied to claim 1**, Stratford et al. disclose where the uplink interface serializer is controlled by the synchronization link (column 12 lines 17-39).

Consider **claim 17 as applied to claim 1**, Stratford et al. disclose wherein a frequency is distributed as a bit clock of the interface (column 12 lines 46-49).

Consider **claim 18 as applied to claim 1**, Stratford et al. disclose wherein the time distribution includes a time strobe transferred over the interface (column 12 line 50-column 13 line 7).

Consider **claim 19 as applied to claim 1**, Stratford et al. disclose wherein the interface delay calibration fine-tunes a downlink transmitter diversity and an uplink signal combination (column 18 line 43-column 19 line 40, Transmit and Receive Diversity using Time-Delay, figures 17 and 18).

***Conclusion***

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:** Commissioner for Patents

P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/RuiMeng Hu/*

R.H./rh  
December 31, 2008



Application/Control Number: 10/551,940

Page 8

Art Unit: 2618

/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618